

Air Force Health Study

*An Epidemiologic Investigation of
Health Effects in Air Force Personnel
Following Exposure to Herbicides*

SAIC Team

Russell H. Roegner, Ph.D.
William D. Grubbs, Ph.D.
Michael B. Lustik, M.S.
Amy S. Brockman, M.S.
Scott C. Henderson, M.S.
David E. Williams, M.D., SCRF

Air Force Team

Col William H. Wolfe, M.D., M.P.H.
Joel E. Michalek, Ph.D.
Col Judson C. Miner, D.V.M., M.P.H.

Project Manager: R.H. Roegner
Statistical Task Manager: W.D. Grubbs
SAIC Quality Review Chair: W.F. Thomas
SAIC Editors: Cynthia A. Marui
Elisabeth M. Smeda

Program Manager: R.W. Ogershok

SCIENCE APPLICATIONS
INTERNATIONAL CORPORATION
8400 Westpark Drive
McLean, VA 22102

EPIDEMIOLOGY RESEARCH DIVISION
ARMSTRONG LABORATORY
HUMAN SYSTEMS DIVISION (AFSC)
Brooks Air Force Base, TX 78235

In conjunction with

SCRIPPS CLINIC & RESEARCH FOUNDATION,
LA JOLLA, CA

NATIONAL OPINION RESEARCH CENTER,
CHICAGO, IL

March 1991

Volume II

SERUM DIOXIN ANALYSIS OF 1987 EXAMINATION RESULTS

Contract Number: F41689-85-D-0010
SAIC Project Number: I-813-X4-195/254/437/011/942/943

(Distribution Unlimited)

AIR FORCE HEALTH STUDY

**An Epidemiologic Investigation of
Health Effects in Air Force Personnel
Following Exposure to Herbicides**

March 1991

VOLUME II

**SERUM DIOXIN ANALYSIS OF
1987 EXAMINATION RESULTS**

**EPIDEMIOLOGY RESEARCH DIVISION
ARMSTRONG LABORATORY
HUMAN SYSTEMS DIVISION (AFSC)
Brooks Air Force Base, Texas 78235**

TABLE OF CONTENTS

VOLUME II

	PAGE
7. MALIGNANCY ASSESSMENT	7-1
INTRODUCTION	7-1
Background	7-1
Summary of Previous Analyses of the 1987 Examination Data	7-6
Parameters for the Malignancy Assessment	7-7
Statistical Methods	7-11
RESULTS	7-12
Exposure Analysis	7-12
DISCUSSION	7-237
SUMMARY	7-238
Skin Neoplasm Analyses	7-263
Systemic Neoplasm Analyses	7-265
Skin and Systemic Neoplasm Analysis	7-267
CONCLUSION	7-267
REFERENCES	7-269

TABLE OF CONTENTS - REPORT

VOLUME I

EXECUTIVE SUMMARY
ACKNOWLEDGMENTS
CHAPTER 1 - Introduction
CHAPTER 2 - Dioxin Assay
**CHAPTER 3 - The Relationship Between the Exposure Index and
Dioxin Body Burdens in Ranch Hands**
CHAPTER 4 - Statistical Methods Models and Assumptions
CHAPTER 5 - Covariate Associations
CHAPTER 6 - General Health Assessment

VOLUME II

CHAPTER 7 - Malignancy Assessment

VOLUME III

CHAPTER 8 - Neurological Assessment
CHAPTER 9 - Psychological Assessment

VOLUME IV

CHAPTER 10 - Gastrointestinal Assessment
CHAPTER 11 - Dermatologic Assessment

VOLUME V

CHAPTER 12 - Cardiovascular Assessment
CHAPTER 13 - Hematologic Assessment

VOLUME VI

CHAPTER 14 - Renal Assessment
CHAPTER 15 - Endocrine Assessment
CHAPTER 16 - Immunologic Assessment

VOLUME VII

CHAPTER 17 - Pulmonary Assessment
CHAPTER 18 - Conclusions
CHAPTER 19 - Future Directions

VOLUME VIII

APPENDIX A through J

VOLUME IX

APPENDIX K through R